BioNet Vaccine Manufacturing Plant and R&D Centre

Fully-Integrated Vaccine Company

Present at Side Meeting PMAC Thailand Jan 29-2020
BioNet is a vaccine company focusing on the discovery and supply of life-saving vaccines, and access to technologies through biotech innovation and partnering networks.

BioNet is also manufacturing novel recombinant vaccines issued from its own product development.

Our vision is to become a leading vaccine company sharing biotech innovation and partnering networks to enable access to life-saving vaccines anywhere in the world.

“A world free of any preventable disease is our dream. To make this dream come true is our mission.”
International Executive Team
An Extensive Experience and Vaccine Knowledge

Dr. Jean Petre (Belgium)
Co-founder

Mr. Vitoon Vonghangool (Thailand)
President and co-founder

Dr. Pham Hong Thai (France)
CEO and co-founder

Nadir Harjee
Technical Advisor

Jacques Francois Martin
Strategic Advisor

Dario Cresci
Production Advisor

Bruno Alfonsi
Director, Market Access

Jane Spiegel
Director, Regulatory Affairs

Souad Mansouri
Acting Director, Clinical Dev.

Laurent Dapremont
Director, Strategic Bus. Dev.
Scientific Advisory Board
International Vaccine Experts Trusting Thai Vaccine Innovation

Emeritus Prof. Stanley Plotkin (USA)
Chairman of the Scientific Advisory Board
• Emeritus Professor of Wistar Institute and University of Pennsylvania
• Principal, Vaxconsult

Prof. Claire-Anne Siegrist (Switzerland)
• Director of the Center of Vaccinology of the University Hospitals of Geneva
• Head of the WHO Collaborating Center for Vaccine Immunology

Prof. Nicole Guiso (France)
• Former Research Unit Head at the Institut Pasteur, Paris
• Former Director of the French National Center of Reference for Pertussis

Prof. Adam Finn (UK)
• Professor of Paediatrics, University of Bristol
• President of the European Society for Paediatric Infectious Diseases (ESPID)

Prof. Kathryn M. Edwards (USA)
• Professor of Paediatrics, School of Medicine, Vanderbilt University
• Scientific Director of Vanderbilt Vaccine Research Program
BioNet-Asia
Discovery and Supply of Life-Saving Vaccines Since 2001

- EST. BioNet-Asia
  Thailand

- 2001
  - Pertussis Research

- 2004
  - Hib R&D
    South Africa

- 2006
  - Dengue R&D
    Thailand

- 2011
  - Rabies and JE Trials
    Thailand

- 2013
  - Licensed as
    boostagen®
    pertagen®

- 2016
  - Oral Polio
    1 Billion Doses Worldwide

- 2017
  - Collaboration

- 2018
  - Zika-Dengue Research Collaboration

- 2019
  - biofarma

- Collaboration
  - Bill & Melinda Gates Foundation
  - PATH
  - Institut Pasteur
BioNet Recombinant Pertussis Vaccine
Translational Research from Project to Product

- B. Pertussis Research
  - Establishment of a vaccine plant
  - R&D plant operation
- Clinical trials
  - Licensed
    - boostagen®
    - pertagen®
- Publication in Ph II/III study
  - THE LANCET
- Clinical trials in Switzerland
  - IMaP Vaccine Project

Timeline:
- 2006: B. Pertussis Research
- 2009: Established R&D Vaccine Plant
- 2013: R&D Plant Operation
- 2014: Clinical Trials
- 2016: Licensed
- 2017: Publication Ph II/III study
- 2018: Clinical Trials in Switzerland
- 2019: IMaP Vaccine Project
Scientific Publications and Patents
Proprietary Recombinant DNA Technology

2012

- *Bordetella pertussis*
  Strain expressing PTgen

2015

- Construction of *Bordetella pertussis* strains with enhanced production of genetically-inactivated Pertussis Toxin and Pertactin by unmarked allelic exchange

2016

- EU

2017

- JP
Network of Partnerships
With Public and Privates Organizations

BioNet collaborates with first class biopharmaceutical companies, vaccine manufacturers, public institutes and universities.
R&D Pipeline
Expertise in Recombinant DNA Technology

Bacterial Vaccines
- boostagen®
- pertagen®
  - Recombinant PTgen Patch
  - IMaP Vaccine Project
  - Recombinant DTaP /Tdap
  - Hib / Penta*

Viral Vaccines
- Rabies**
- Japanese Encephalitis**
- DNA Zika /Dengue
- Recombinant Dengue
- Recombinant Chikungunya
- Recombinant HPV

* Technology Transfer
** Production partnership
State-of-the-Art Manufacturing Plant and R&D Centre
Committed to Quality and Excellence

- Bacterial Vaccine Pilot Plant
  - 2009
- Viral Vaccine R&D Centre
  - 2012
- QC Labs
  - 2013
- Primary and Secondary Manufacturing Plant
  - Animal House
  - 2015
Fully-Self Funding Integrated Vaccine Company
World’s Only Manufacturer of Recombinant Pertussis Vaccines

Production facilities in compliance with WHO and PIC/S GMP

First plant in Thailand with prefilled syringe line
Operation Team in Ayutthaya Facility
A Fully Operational Manufacturing Company

- R&D
- Production
- QC
- QA
- Regulatory Affairs
- Clinical Development
- Health, Safety & Environment
- Project Management
- Supply Chain
- Engineering
- Industrial Project & IT
- HR & Admin
Expertise in Vaccine Supply and Distribution

Manufacturing
- Pertagen®
- Boostagen®

Import & Export
- OPV
- Equirab
- DTP
- BioTT
- TT10
- Healive

Certified logistic and supply chain with international standard from both Thai FDA & SGS on GSDP
“Most aP vaccines are combined with other antigens in combination vaccines, and no monovalent aP vaccine is available in the Americas or the European Union (EU).

A licensed monovalent aP vaccine for booster immunizations is available in Thailand.”